

**INVASIVE SPECIES CONTROL PROJECTS (R1 SMALL GRANTS)
FY 2013 FINAL REPORT**

Project Title: Control of English Holly

Station: Hakalau Forest National Wildlife Refuge

Contact Person: Steve Kendall, Wildlife Biologist

Project Description: Hakalau Forest NWR (Hakalau) was established to conserve endangered forest birds and their habitats. Since establishment of the refuge there has been significant progress in forest restoration leading to increasing populations of native forest birds. However, these gains are threatened by invasion of exotic plants, animals and disease. English holly (*Ilex aquafolia*) was identified as a highest priority target invasive plant species in Hakalau Forest NWR's 2010 Comprehensive Conservation Plan (CCP). It is a tall shrub or small tree that can spread via seeds or vegetatively and can out-compete native species. Holly was originally planted around ranch buildings located in this area prior to establishment of the refuge. Currently it is mostly confined to the southwest portions of the refuge, but is spreading to other areas. English holly produces berry which are eaten by native and non-native birds, leading to dispersal of seeds into previously non-invaded areas. Hakalau Forest NWR is one of few places where English holly is found in Hawaii, so eradication here is crucial not only for the refuge, but for other native ecosystems in the state.

Invasive Species Targeted: English holly (*Ilex aquafolia*)

Project Completion Date or Estimated Completion Date: 1/30/2014

Project Results: We added funds from the Invasive Species Small grant to an existing contract for Florida blackberry control. The contractors split control efforts between English holly and blackberry. Most of the holly control was focused in the area of highest concentration in the Pua Akala management unit of the refuge (see map). However, holly was treated when encountered while doing blackberry sweeps in the Shipman management unit as well. In the Shipman Management area holly plants are mostly younger seedlings that can be pulled out. In Pua Akala area, where plants tend to be in a tree form, they were cut and stumps were treated with Garlon 3A. Work is ongoing, but will be completed in early 2014. Thus far approximately 450 have been treated.

Number of Acres Treated: 520

Number of Acres Inventoried and/or Mapped:

Number of Acres Restored: N/A

Total Grant Amount: \$35,724

Breakdown of Expenditures:

Category	Total \$ Spent	% of Total Grant
Equipment/Supplies		
Chemical		
Biocontrol Agents		
Travel		
Biotech/Contractor Salary	\$36,000	100
Restoration Materials		
Other (Describe)		
TOTAL		

